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10/594,866

09/29/2006

Dirk Schmidt

FMW-CT-PCT-US

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EXAMINER

CHAU, TERRY C

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/594,866 | Applicant(s) SCHMIDT ET AL. | |
| | Examiner TERRY CHAU | Art Unit 3655 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/1/2011 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is the second office action for the continued examination of application 10/594,866 filed 9/26/2006.

Applicant's amendment to the claims filed 6/1/2011 has been entered. Claims 1-7, 9-22 are currently pending.

Applicant's amendment to the specification filed 6/1/2011 has been entered.

Applicant's amendment to the drawings filed 6/1/2011 has been entered.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous final office action has been withdrawn pursuant to 37 CFR 1.114.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 4/10/2009 and 9/29/2006 have been considered by the examiner.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the engine control mechanism of claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1, 21 and 22 are objected to because of the following informalities:

Regarding claims 1, 21, and 22, in lines 1-2, "fifth wheels" should be --a fifth wheel--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9, 10 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 9 and 20, the variable control mechanism (11) does not comprise a valve control mechanism (12). See figure 1 and paragraphs 0045-0046 of applicant's specification. The variable control mechanism and valve control mechanism appear to be two separate entities. If the variable control mechanism comprises the valve control mechanism, as per applicant's argument dated 4/6/2011, then applicant must amend paragraphs 0045-0046 and figure 1. That is, the variable control mechanism 11 would not be connected via data cables 21 to the valve control mechanism 12, if the valve control mechanism 11 is a part of the variable control mechanism 21. No new matter should be entered in the amendment.

Claim 10 is rejected as being dependent upon rejected claim 9.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 14, 15, 17-19, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (DE 41 10 893; see human translation) in view of Heinzl (DE 43 04 857; see human translation) and Elyakim (US 4,477,100).

Schneider discloses:

Regarding claim 1:

A system for lubricating a closing mechanism on fifth wheels comprising:

a closing mechanism (18) arranged on a bottom side of a coupling plate (10),
[the coupling plate or the lubrication system] having at least one closing hook
(24. Under the broadest interpretation, 24 may be considered to be a hook as it is a curved or bent device. 24 is a *closing* hook, since it is a hook which encircles / encloses / draws near the king pin.), and

a grease reservoir (32 or implicit reservoir connected to 32 under the assumption that 32 is merely a distributor as per applicant's argument on page 9 of the Remarks dated 8/2/2010), which is connected by a lubricating line (30) solely to the closing hook such that grease is distributable from the lubricating line directly onto a contact surface (24b) of the closing hook which contacts a kingpin (14) when the kingpin is present (It is

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noted that contrary to applicant's argument in the Remarks dated 4/6/2011, this cause does not require that the grease reservoir be connected to no other member. In fact, in view of "with the grease cartridge arranged on the fifth wheel" clause at the end of claim 1, it would appear that the reservoir is also connected to the fifth wheel. The examiner believes that a valid interpretation for this clause may be that, "the lubricating line solely connects the grease reservoir to the closing hook". That is, in view of figure 1 of Schneider, although other lubricating lines are present, line 30 solely connects the grease reservoir to the closing hook.).

Regarding claim 1, Schneider does not disclose that the closing hook is provided with a permanent coating and wherein the coating of the closing hook is configured as a sliding coating and the grease reservoir is a grease cartridge, with the grease cartridge arranged on the fifth wheel.

Heinzel discloses a fifth wheel assembly wherein the closing hook (34) is provided with a permanent coating (42, 44, 46) and wherein the coating of the closing hook is configured as a sliding coating.

Elyakim discloses that a grease reservoir (13) is a grease cartridge (13), with the grease cartridge arranged on a fifth wheel (10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a sliding coating on the closing hook of Schneider in

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view of the teachings of Heinzl that a sliding coating can drastically reduce lubricant consumption (see pages 3-4 of human translation of Heinzl).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the grease reservoir / grease cartridge on the fifth wheel, since a person of ordinary skill is a person of ordinary creativity, and such an arrangement, in view of the teachings of Elyakim, would have been the combination of prior art elements according to known methods to yield predictable results. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the grease reservoir / grease cartridge on the fifth wheel, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. Finally, one of ordinary skill at the time the invention was made would recognize that placing the grease reservoir / cartridge on the fifth wheel of Schneider would reduce the length of the lubricating line, thereby reducing the amount of materials used to construct the lubricating line, and resulting pressure drops across the lubricating line.

Regarding claim 2, the grease cartridge is coordinated with the fifth wheel.

Regarding claim 3, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place the grease cartridge underneath the fifth wheel, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Regarding claims 4, the grease cartridge has a drive unit (14 of Elyakim).

Regarding claim 14, at least one outer surface of the closing hook is provided with the sliding coating (42, 44, 46 of Heinzl), wherein the coating is in the form of the sliding coating.

Regarding claim 15, the sliding coating consists of a multilayer system (42, 44, 46 of Heinzl)

Regarding claims 17 and 18, the sliding coating has a layer thickness of 50 to 150 μm ; the sliding coating has a layer thickness of 70 to 130 μm . (A prima facie case of obviousness exists due to an overlap of ranges. See page 8 of the human translation of Heinzl.)

Regarding claim 19, Schneider discloses that the system also includes a closing bar (18 or prongs of 18) for use in the fifth wheel.

Regarding claim 19, Schneider does not disclose at least one outer surface of the closing bar is provided with the coating, wherein the coating is in the form of the sliding coating.

Heinzl discloses the application of a sliding coating (see first paragraph on page 9 of the human translation) on the outer surface (29, 31) of a closing bar (16 or 18).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a sliding coating on the closing bar of Schneider, in view of the teachings of Heinzl that the sliding coating can prevent wear (see pages 3-4 of the human translation).

Regarding claim 21, see the rejection of claim 1. Schneider also discloses that the closing hook comprises a lubricating channel (24e) expiring on a contact surface (24b) which contacts a kingpin (14) when the kingpin is present.

Regarding claim 22, see the rejection of claim 1. Schneider also discloses wherein the closing hook comprises a lubricating channel (24e) running in a radial direction and expiring on a contact surface (24b) which contacts a kingpin (14) when the kingpin is present.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (DE 41 10 893), Heinzl (DE 43 04 857) and Elyakim (US 4,477,100), as applied to claim 4 above, and further in view of Oloman et al. (US 5,968,325).

The teachings of Schneider, Heinzl and Elyakim have been discussed above.

Regarding claims 5 and 6, Schneider, Heinzl, and Elyakim do not disclose that the drive unit comprises an electromechanical drive or a chemical drive.

Oloman et al. discloses a grease cartridge with a chemical and electro-mechanical drive (20, 22, 24; see Field of Invention).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the drive unit of Schneider as modified by Elyakim with an electromechanical / chemical drive unit in view of the teachings of Oloman that the chemical / electromechanical drive is an automatic drive (see Field of Invention), and since it has been held that broadly providing a mechanical or automatic means to

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replace manual activity which has accomplished the same result involves only routine skill in the art. In re Venner, 120 USPQ 192.

Regarding claim 7, the drive unit is connected to a variable control mechanism; (optional control circuit; see column 4, lines 6-9 of Oloman).

Claims 5, 7, 9-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (DE 41 10 893), Heinzl (DE 43 04 857) and Elyakim (US 4,477,100), as applied to claim 2 or 4 above, and further in view of Riskedal (US 6,874,599).

The teachings of Schneider, Heinzl and Elyakim have been discussed above.

Regarding claims 5, 7, 9-12 and 20, Schneider, Heinzl and Elyakim do not disclose that (regarding claim 5) the drive unit comprises an electromechanical drive; (regarding claim 7) the drive unit is connected to a variable control mechanism; (regarding claim 9) the variable control mechanism comprises a valve control mechanism; and (regarding claim 10) the valve control mechanism comprises a flow restriction valve arranged in the lubricating line; (regarding claim 11) the variable control mechanism communicates with a vehicle control unit; (regarding claim 12) the variable control mechanism communicates with a coupling control unit; (regarding claim 20) the grease cartridge is arranged underneath the coupling plate.

Riskedal discloses that a drive unit comprises an electromechanical drive (18, 20, 22); the drive unit is connected to a variable control mechanism (20, 22); the variable control mechanism comprises a valve control mechanism (20) ; and the valve

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control mechanism comprises a flow restriction valve (20) arranged in a lubricating line (30); the variable control mechanism communicates with a vehicle control unit (22); the variable control mechanism communicates with a coupling control unit (22); a grease cartridge (12) is arranged underneath the coupling plate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an electromechanical drive, a variable control mechanism, a valve control mechanism and a coupling / vehicle control unit with the system of Schneider as modified by Heinzl and Elyakim, in view of the teachings of Riskedal that these additional components provide a convenient, clean and efficient means of lubricating a fifth wheel (see column 2, lines 51-53). Furthermore, it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. In re Venner, 120 USPQ 192.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the grease cartridge underneath the coupling plate, in view of the teachings of Riskedal, and for the reasons discussed in the rejection of claim 3.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (DE 41 10 893), Heinzl (DE 43 04 857), Elyakim (US 4,477,100), and Oloman et al. (US 5,968,325), as applied to claim 7 above, and further in view of Schedrat (US 5,438,881).

The teachings of Schneider, Heinzl, Elyakim and Oloman have been discussed above.

Regarding claim 13, Oloman also discloses the variable control mechanism communicates with a pressure sensor (see column 4, lines 6-9 of Oloman).

Regarding claim 12, Schneider, Heinzl, Elyakim and Oloman do not disclose that the pressure sensor arranged on the coupling plate.

Schedrat discloses a fifth wheel (1) with a pressure sensor (10) arranged on the coupling plate (2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the pressure sensor of Oloman on the fifth wheel in view of the teachings of Schedrat that the pressure measurements from the pressure sensor may be used to influence and improve the driving behavior of the vehicle (see the abstract and column 3, lines 6-14).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (DE 41 10 893), Heinzl (DE 43 04 857) and Elyakim (US 4,477,100), as applied to claim 15 above, and further in view of Sedlatschek (US 3,844,729).

The teachings of Schneider, Heinzl and Elyakim have been discussed above.

Heinzl also discloses that the multilayer system is composed of a first layer (44), which comprises an alloy with molybdenum fractions (see page 8 of human translation) and a second layer (46) of PTFE applied to the first layer.

Regarding claim 16, Schneider, Heinzl, and Elyakim do not disclose that the first layer comprises an iron alloy with nickel and molybdenum fractions.

Sedlatschek discloses a wear-resistant surface for a metallic machine element that is applied by plasma spraying (see lines 10-28, column 3). The wear-resistant surface comprises an iron alloy with nickel and molybdenum fraction (see lines 45-65, column 2). Furthermore, PTFE may be applied to the wear-resistant surface (see lines 14-19, column 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select an iron alloy with nickel and molybdenum fractions as the first layer in the slide coating of Schneider as modified by Heinzl, in view of the teachings of Sedlatschek that a wear surface made from such an alloy is capable of withstanding large stresses / friction, and may operate at elevated temperatures under conditions of inadequate lubrication (see lines 21-25, column 2).

Response to Arguments

Applicant's arguments with respect to claims 1-7 and 9-22 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues that the variable control system 11 and the valve control mechanism 12 below to a common system.

The examiner agrees with this position. However, it is noted that applicant is claiming that the variable control system 11 ***comprises*** the valve control mechanism 12

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in claim 9, not that the variable control system 11 and the valve control mechanism 12 are part of a common system.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kramer (US 2,093,761) discloses a cushion mounted call and socket fifth wheel.

Claussen et al. (US 2,738,988) discloses a tractor trailer safety coupling.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TERRY CHAU whose telephone number is (571)270-5926. The examiner can normally be reached on Monday-Friday 10:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Le can be reached on (571)272-7092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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08/15/2011

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